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ABSTRACT

In 1995, the Council for Basic Education initiated the Standards for Excellence in Education (SEE) project, a multiyear effort to provide parents, educators, and the general public with better means to use standards to improve public education. This issue of "Perspective" tries to provide a coherent way to think about issues and questions related to standards-based education reform, focusing on developing the standards educators and the public use to identify what students should learn. Content standards criteria are grouped into three broad areas. The first is that content standards should be meaningful. They must capture the major concepts and knowledge that give the subject its coherence, and they must provide guidance to address problems or questions in that subject. A second criterion area is that standards must be legitimate. They must be a justifiable set of expectations that the public and schools are entitled to demand students meet. A final requirement is that standards must contribute to practical reform. They must be clearly understandable and must promote learning and policy formation. Standards-based reform must guide decisions about how well the educational system is doing and what resources, policies, and other changes are needed. (SLD)

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PERSPECTIVE
Council for Basic Education

JUDGING STANDARDS IN STANDARDS-BASED REFORM

by Ivor Pritchard

Standards-based education efforts naturally include judging how well the content standards reflect the education students should have. In other words, content standards themselves must be evaluated.

Vol. 8, No. 1 Summer 1996

PERSPECTIVE

Council for Basic Education

INTRODUCTION

In 1995, the Council for Basic Education initiated the Standards for Excellence in Education (SEE) Project, led by Ivor Pritchard as principal investigator. The SEE project is a multi-year effort to provide parents, educators, and the general public with better means for using the standards to evaluate and improve schooling in the United States. As a resource for standards development and school improvement efforts at the state or local level, the national voluntary standards contain a valuable set of detailed and carefully developed descriptions of what students should know and be able to do in the core subject areas.

This *Perspective* originated in staff discussions of how to systematically evaluate the national voluntary standards and their possible uses in education reform. As we formulated our own understanding of the important criteria, we decided that our work might be helpful to others contemplating or actively engaged in the process of standards-based reforms. While there are other discussions of standards criteria available, we thought that this essay would provide a coherent way to approach the issues.

The SEE project is supported by generous funding from several sources, including The Pew Charitable Trusts, the John D. and Catherine T. MacArthur Foundation, and the Carnegie Corporation of New York. This *Perspective* is a preliminary product of the work begun on the SEE project. CBE appreciates the degree of commitment to the importance of improving American education that is reflected by these institutions' support.

Christopher T. Cross
President
Council for Basic Education

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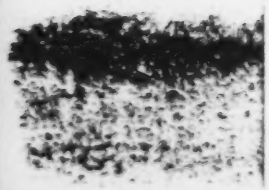


JUDGING STANDARDS IN STANDARDS-BASED REFORM

by Ivor Pritchard

... a constitution is a standard, a pillar, and a bond when it is understood, approved and beloved. But without this intelligence and attachment, it might as well be a kite or balloon, flying in the air.

John Adams

High educational standards are popular in America. In the 1995 Gallup/Kappan poll, 87% of the American public favored setting higher standards in the basic subjects as a basis for grade promotion, and 84% favored the same thing for high school graduation.[1] It is hard to imagine serious objections to the basic idea of having high expectations for students' educational achievement and for the quality of the education provided in American schools. Who would argue with the idea of striving for the best possible education?

Yet, discussions of standards-based education reform are not all sweetness and light. Questions are raised about standards and their effects on children's education: What are standards? Do they work? Are they effective on their own, or do they require other changes in schooling? Will they make the system more or less equitable? By what authority are they defined, created, and used? Who is responsible for their success or failure in improving student learning? Without a reasonable response to such questions, support for high standards is little more than well-meaning talk.

This *Perspective* tries to provide a coherent way to think about issues and questions related to standards-based education reform. It focuses on the first step, which is developing the standards that educators and the public use to identify what students should learn. Having a set of criteria for evaluating these standards as they are developed provides a useful way to gauge the consequent reforms. Illustrations are drawn from recently created standards in the various core subjects produced by national level projects,[2] but the criteria presented here for evaluating standards are relevant to any standards-based reform effort in this country.

The first two recommendations in the 1983 report, *A Nation at Risk* (certainly the most frequently cited report about modern American education), were 1) strengthening the content of the core curriculum and 2) raising expectations using measurable standards.[3]

The report specified course requirements in five core subjects for high school graduation, and recommended that textbooks, grades, and tests be designed to encourage rigorous learning experiences. In 1989, the President and Governors met at an Education Summit in Charlottesville, Virginia. Their meeting led to National Education Goals, continuing the emphasis on promoting educational excellence.[4]

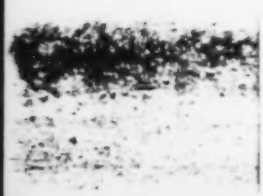
Following the creation of the Goals, an initiative emerged to create voluntary national standards in each of the core subject areas. These standards would describe what students should know and be able to do as a result of their primary and secondary school education.[5] Following the lead of the National Council of Teachers of Mathematics, various national professional organizations organized projects to develop standards in subjects such as science, geography, civics, history, the arts, and foreign languages.[6] Some of the standards projects received funding from various parts of the federal government, but the federal government had no control over the contents of the standards projects' products.[7]

The Promise of Standards-based Reform

The basic idea of standards-based reform is to create clear, consistent, challenging goals for student learning, and then to make educational practices more coherent by deliberately using those goals to guide both instruction and testing. Common sense suggests that the quality of education is better if teachers are prepared to teach what they're asked to teach in the classroom, if the materials teachers use are designed to enable students to learn what they are supposed know, and if the tests students are given test them for what they've been asked to learn.

Unfortunately, the typical American student's educational experience seldom matches this common sense approach. Teacher preparation, textbooks, and tests are often developed independently of one another. As a result, teachers are often at cross purposes both with each other and with the materials they are using, and the tests measure student knowledge that is different from what teachers were trying to teach. By coordinating learning, teaching, and testing, standards-based reform tries to eliminate the educational confusion.

Not surprisingly, this classroom chaos hurts disadvantaged students more than anyone else. Evidence on student grades and achievement shows that disadvantaged students (and their parents) are misled about how well they are doing in school: In English and mathematics, the level of academic achievement associated with an "A" at a high poverty school corresponds to the level for students getting a "C" or a "D" at a school where the students' families are fairly well-off.[8] Consequently, students, colleges, and employers are all using unreliable information when students from different schools compete with one another for jobs or college admissions, and the students from the high poverty schools are most likely to end up disappointed when the others find that they are misled by the overly inflated grades. Standards-based reform seeks to straighten out this mess through a public process of setting the same standards across the board so that everyone can see what they are supposed to be doing and how well they are doing it.



By setting the standards high, standards-based reform tries to break down the obstacles to achievement created by low expectations. These obstacles trip up many American students, not only the disadvantaged. American students do not get the message that academic achievement takes priority over competing demands on their time. People around them frequently disparage extraordinary effort and outstanding intellectual work, and disadvantaged students often receive the impression that no one expects them to do well, and so they give up easily.[9] By setting high standards and recognizing genuine accomplishments, standards-based reform tries to knock down the barriers of discouragement. School reforms focusing on improved student learning and including many of the elements of standards-based reform have already produced evidence of success, with positive student achievement gains reported across the range of student socioeconomic backgrounds.[10]

The national standards projects are organized by subject area and state what students should achieve as they progress from kindergarten through twelfth grade. Taken together, these standards create a picture of the benefits of a liberal arts education in the United States.

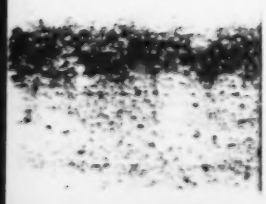
Key Terms in Standards-based Education Reform

A picture of the elements of standards-based education reform is emerging, and as it does, some pieces of the picture have acquired labels. In these pages, the key terms will be understood as follows:

Content Standards. A description of what students are expected to have learned, expressed as mastery of the subject matter and how to think with and use that material for intellectual or practical purposes. Since these expectations are usually described as what students are supposed to have accomplished by the end of a certain school level, they are sometimes also called exit or outcome standards. Content standards describe what students are expected to know and be able to do, but are not the materials students actually use to accomplish their learning.

Learning Benchmarks. Points of reference used to gauge the progress of student achievement toward content standards, usually provided in terms of a grade level. Learning benchmarks serve to give an idea of what students should be expected to learn by that point in their schooling, without being so specific that they ignore variations in individual student progress or variations in the scope and sequence of curricular offerings.

Curriculum. A description of how and what students will actually be taught in the relevant course(s) to achieve the objectives described in the content standards. The curriculum normally includes lesson plans or outlines, primary source materials, textbooks, videos, lectures, and other sources of information.



Curriculum Framework. A descriptive outline of the series of courses students are normally expected to take in school and what the curricula for the courses should include. Ideally, content standards, curriculum frameworks, and curricula are coordinated with one another, so that the content standards provide some guidance for the development of frameworks and curricula, and a careful analysis of the curricular materials should reveal the content standards embedded in them.

Performance Standards. A description of the kind of mastery students are supposed to achieve, normally given in connection with a content standard. In other words, content standards identify something to be learned, and performance standards identify how well students are supposed to learn it. Performance standards sometimes identify more than one level of achievement for a content standard, and label each level accordingly (for example, basic, proficient, advanced).

Assessments. Activities such as tests, projects, experiments, or writing assignments that are designed for students to demonstrate their educational achievements. Educators use assessments to find out whether students are meeting a given performance standard.

Opportunity to Learn Standards. Descriptions of the nature and quality of the educational experiences and resources that educators should make available to students. In standards-based reform, opportunity to learn standards are measures of what the education system does to enable students to meet the expectations set by the content and performance standards.

Teaching Standards. Descriptions of educational experiences provided by teachers, that is, the quality of instruction, classroom activities, and learning projects they offer to their students. Meeting teaching standards is normally a substantial part of meeting opportunity to learn standards. Teaching standards are also used to gauge the relationship between what students are taught and how they learn in the classroom, on the one hand, and what the corresponding content and performance standards demand that students know and be able to do, on the other.

Judging Content Standards

Education reforms should be practical, include participation by those concerned, and treat everyone fairly, particularly the students. Standards-based education efforts naturally include judging how well the content standards reflect the education students should have. In other words, content standards themselves must be evaluated.[11]

To be useful, criteria for reviewing standards should not be isolated from one another. Presenting them as a random list, as some other documents have done, leaves out both the connections and the tensions among the various features of standards. For example, content standards must constantly try to balance the need to include every-

thing students should learn against a realistic appraisal of the demands of time. What students are expected to learn, and how they are asked to show what they have learned, are questions that should be asked together. The various demands made of standards in reform may either strengthen or weaken their overall quality.

This *Perspective* groups content standards criteria into three broad areas. The three areas portray how content standards can be meaningful, legitimate, and practical. All three areas are crucial to good standards-based reforms. While the criteria about meaning can be applied to content standards documents, the criteria about legitimacy and practicality really come into play as content standards are put into practice. People have to use sound content standards as a compass to develop curricular frameworks, curricula, teaching practices, performance standards, and assessments.

I. Are the Content Standards Meaningful?

Content standards should state the most important and enduring knowledge and skills that students should acquire in the course of a basic liberal arts education. Judging how well content standards do this requires examining the standards themselves and comparing them with standards in other education systems. Each set of content standards identifies the essential learning objectives for students. They outline crucial features of the subject area, including the range of material to be covered and the kind of mastery and sophistication students are expected to achieve in their understanding of that material. They capture the major concepts and knowledge that give that subject its coherence, and provide guidance about how problems or questions in that subject are addressed, in theory and application.

The Heart of the Subject Matter

First of all, content standards must capture the most important learning goals required by the nature of the subject itself. What defines that subject as a whole? What are its most essential, distinctive, and significant features? What sets it off from, and connects it to, the other subjects in the curriculum? Content standards should be reviewed in terms of how well they represent these basic features of the subject.

Standards' significance depends on their relationship to the traditional core academic disciplines. These disciplines have developed coherent ways of organizing and understanding subject matter according to principles and categories that have been developed and improved over time. The systematic quality of content offered by the disciplines means that students who have a general familiarity with a discipline can move more readily from the material in one area of the discipline to another. Having been tested and revised, a discipline's methods, rules, and experimental strategies fortify the student's ability to solve problems, find answers, and pursue new knowledge.

Content standards reflect claims about why subject matter is worth studying, both for its own sake and for pursuing other valuable ends. They identify intrinsically worthwhile features of the subject itself through the appeal of participating in the academic activity and the satisfactions of accomplishment. Obviously, these descriptions vary according to the subject and depend on such things as the discovery of the workings of nature, the expression of artistic creativity, or the exercise of political will. All of them, however, affirm a view about the subject's inherent worth.

The standards also make claims about the instrumental or practical value of their subject. Besides whatever contributions the subjects make to learning in other subjects, they enable people to meet the challenges of adult life more successfully than people who lack the benefits of attaining them: they offer knowledge that can be applied to various practical pursuits, beyond whatever intellectual appeal they may have. Governments collect revenues and mandate education for their young people based on the belief that education will help them learn how to work more effectively, how to fulfill their roles as citizens, and how to create a more meaningful personal life for themselves. All three of these pursuits also promise to add to the overall cultural enrichment of the society. Good content standards identify the kind of learning that promises such practical benefits.

Balancing Knowledge and Skills

Current discussions of content standards commonly express the idea of balancing knowledge and skills by talking about "what students should know and be able to do." This phrase is used to give credit to two dimensions of the subject, both of which are important. What students "know" generally refers to a familiarity with content matter —the factual information, central ideas, and key vocabulary without which any substantial achievement in that subject is impossible. What students "can do" usually refers to the skills necessary to carry out the activities characteristic of people actively engaged in that subject.

The emphasis on knowledge or skills may vary according to the particular subject at hand. Some subjects naturally rely more heavily on familiarity with material, while others depend more on the mastery of a set of procedures students use on the material to solve whatever problem has arisen. Consequently, the appropriate portion of standards in a subject devoted to content or skills may vary, and should not be assumed to be the same across the core curriculum.

The proportion of skill- to knowledge-oriented standards in mathematics and history reflect the natural differences between the two subjects. For grades 5 to 8 and 9 to 12, the National Council of Teachers of Mathematics standards list four standards which emphasize skills and eight or nine standards that

focus on knowledge of material. In contrast, the National Standards for History for grades 5 to 12 include five skills standards and seventy-seven standards that focus on knowledge of the material.

Some people have argued that either knowledge of content or development of skills is more important than the other, or that one is currently receiving too much attention at the expense of the other. Nearly everyone, however, concedes that some balance must be struck between the two, even if they disagree about where to draw the line.

Actually, knowledge and skills are more closely intertwined than these discussions sometimes imply. Knowing anything requires some kind of intellectual operation that can be demonstrated through some kind of performance, even if it is only to respond with the right words or marks on paper. Likewise, the use of skills requires an understanding of relevant terms and at least the temporary grasp of the relevant information. Material cannot be grasped without skills, and skills cannot be used without material. To ask whether a given curriculum is knowledge-based or skills-based generally reflects a false dichotomy. At any given moment in learning either one or the other may come to the fore, but both are always onstage somewhere.

Reaching the educational objectives of the content standards normally involves more than the acquisition and use of the facts, ideas, terms, and methods of a subject. Such activity often requires some form of behavior or interaction that goes beyond purely cognitive operations. Observing, writing, speaking, and other forms of communication are often part and parcel of subject mastery. Sometimes participation in a subject's activities can be carried out alone; however, active involvement in subjects such as science or music often requires some form of collaboration or relationship with other people. Expressing ideas and carrying out scientific or artistic projects require practical as well as intellectual skill.

Learning can transform the learner; educational experiences may actually change the person's self-understanding and ideals. Content standards sometimes refer to desirable attitudes and values to be attained along with the knowledge and cognitive skills students are expected to acquire in meeting the standards. Fostering the development of values or attitudes in students is often considered central to education, and there is widespread support for teaching children the importance of good work habits, honesty, and respect for others.[12] Content standards documents sometimes mention educational goals that include such qualities, either as content standards or in supplementary discussions.

"In grades K-4, the study of mathematics should emphasize problem solving so that students can ... acquire confidence in using mathematics meaningfully."[13]

> "By the end of the 12th grade, students should know why curiosity, honesty, openness, and skepticism are so highly regarded in science and how they are incorporated into the way science is carried out; exhibit those traits in their own lives and value them in others."[14]

> "Students should be able to evaluate, take, and defend positions on the importance to American constitutional democracy of dispositions that foster respect for individual worth and human dignity."[15]

However, to include qualities related to such attitudes and values in content standards normally poses two problems. First, such qualities are viewed skeptically by some of the public who are not convinced that attitudes and values should be part of the school's educational agenda. At times, they object to the particular value itself, and sometimes they raise questions about whether schools, rather than families, should be teaching these values. Second, detecting or measuring the acquisition of such qualities objectively is not an easy task. Good content standards are supposed to identify learning objectives of a kind that can be measured to see whether they have been reached or not. Wherever content standards call for this kind of student development, these two considerations should be addressed.

Coherence and Integration of the Core Subjects

Every set of content standards presents the relevant knowledge and skills for that subject in its own way. Their presentation reflects editorial decisions about the best format, and the creators' views about the particular nature of the knowledge and skills themselves. At the same time, however, content standards parallel and overlap one another in what they expect students to know and be able to do. Skills, in particular, appear in several subject areas in similar form. In some cases, they may actually reflect the same skills applied to different areas. In other cases, there may be skills that are analogous to skills in other areas but are still distinctive. Is "analysis," for example, the same skill in science and language arts, or is it really different in the two subjects?

Content standards must address the relationships among the various academic subjects and how they represent a single coherent education. Whether content standards reflect distinct skills or skills shared by the subject areas does not, however, exhaust the topic; knowledge that is part of a given subject can appear in other subjects as well. Do the geography and science standards contain the same material in connection with the term "environment"? How do the history and civics standards treat the U.S. Constitution? Do the science and mathematics standards rely on the same understanding of statistical probability? The answers to such questions determine whether the knowledge demanded by the standards is truly the same or is somehow modified by its place in different subjects.

World-class Standards

Content standards are sometimes examined with an eye toward whether they are "world class" or "internationally competitive." The idea of world class standards implies comparison with content standards in other nations. This assumes that content standards can be set beside each other to see whether the formal expectations for student academic achievement in other education systems are the same, equivalent, or neither. While it is safe to assume that much the same mathematical and scientific knowledge is demanded all over the globe, this is not so obvious when it comes to subjects like history or literature. It is also important to ask whether the standards pertain to students at an equivalent grade level, and whether they pertain to all or only some students.

Ultimately, the value of the comparison still depends on the intrinsic merits of the standards being compared. If the content standards being used as the basis for international comparisons contain wildly unrealistic demands of students, or are seriously flawed or incomplete, then there is little point in developing equivalent content standards only to be able to say that the standards are "as high as others around the world." Establishing appropriate and high academic expectations for students is a challenge for every nation, and all nations' educational systems are called to articulate an adequate conception of what any educated person should know and be able to do in the conditions of the modern world. Whatever the differences in national cultures and levels of development, comparisons are nonetheless fruitful because they provide an important indication of how the American response measures up.

CRITERIA ABOUT MEANING:

1. How well do the content standards reflect the essential elements, intrinsic importance, and practical significance of the subject matter? Do they identify the knowledge necessary for students' future personal lives, careers, and civic and cultural activity?
2. How well do the content standards balance the mastery of important facts, ideas, and key terms with the kinds of intellectual and practical skills needed in order to fully understand and practice the activities of the subject? Are they properly joined together?
3. How well do the content standards from different disciplines identify the overlapping features of related subjects? Do they provide valuable opportunities for integration of interdisciplinary approaches, or do they represent pointless duplication?
4. How well do the content standards permit comparisons with standards in other education systems in the world? How do the standards compare?

II. Are the Content Standards Legitimate?

Content standards acquire legitimacy as a justifiable set of expectations which the public and schools are entitled to demand that students meet when the standards con-

form to recognized and valid principles. These principles govern how content standards are developed, adopted, and implemented.

Establishing Consensus and the Adoption Process

The education standards-setting process should allow for participation by the public, including parents, educators, scholars, policymakers, and business and community leaders. Content standards reflect the public's view of the society's purposes for schooling.

Public consensus requires ongoing attention. Content standards do not spring into being fully formed and ready-to-go; they must be created, developed, revised, adopted, and implemented through a process involving various people at various times. Subject area experts, teachers, administrators, and curriculum developers all serve technical functions at various stages, and each stage must win the continued support of the public. Differences of opinion may arise. Part of the evaluation of the standards-based reform should include whether there are opportunities to work out a reasonable reconciliation of differences so that the process can move forward with continued widespread support.

Voluntary adoption of the national standards is an important sign of the degree of public support for content standards. The American tradition reserves authority over educational matters to state and local decision makers, and since the distance between the developers of national standards and the communities using the national standards to develop their own is great, the voluntary nature of the national content standards is crucial to their having a positive impact. The national standards have been developed with considerable resources—resources which local communities seldom have at their disposal. States and communities frequently take advantage of these standards in the process of developing and adopting their own content standards. It is up to states and communities to select the standards that they are prepared to support for their young people.

Equity for All Students: Access, Achievement, and Performance Standards

Sooner or later, education reforms based on content standards affect students, and even if the community has voluntarily adopted the standards, the students have not. Accordingly, content standards' legitimacy cannot rest solely on any voluntary adoption by the state or local community. Standards-based reforms must be judged for how they will affect the educational progress of students. Such judgments rest on an understanding of how the reforms will influence the quality and quantity of learning achieved by the whole range of students in the system.

Standards-based reforms must reflect the principle of equity. The various national standards refer in one way or another to having "high standards for all students," responding directly to the challenge of using standards that have a positive effect on students throughout the school system. In this respect, the national standards projects embrace the principle of universal application. Some of them, however, qualify this

principle in some way, and particular communities adopting these or other standards may contemplate allowing some students to be excepted from the expectations set by the content standards. In a few cases, this is understandable: The secondary school student who immigrates to the United States and enters the system without knowledge of English; or a student with a mental or physical disability that directly interferes with his or her learning.

> No individuals or groups are to be excluded from an opportunity to become science literate, nor are any to be presumed unable to become science literate. We believe that the science, mathematics, and technology understandings and skills spelled out in *Science for All Americans* [SFAA] and *Benchmarks* are within the reach of all but the most severely mentally and emotionally handicapped individuals. ...Still in the real and imperfect world, "all" cannot possibly be absolute. When pressed for an operational definition, we have settled for "at least 90% of all future adults will have acquired at least 90% of the knowledge and skills recommended in SFAA."[16]

The problem with providing for any exceptions is the frequency with which such policies are abused: Historically, too often education systems have used such policies in ways that help the system, but not the student. Education systems may appear more successful than they really are by excusing students who are not performing well from being counted among the students expected to meet the standards. This tends to make the school system's test score averages higher and allows the system to promote students up and out, making school officials appear successful. Too often the students who are treated this way end up with an inferior education. On average, less than a fraction of one percent of the student population will be unable to meet content standards for reasons of physical or mental disabilities,[17] but past experience suggests that school systems may enlarge this category to benefit the system rather than the student. Policies whose effect is that content standards are not applied equally to all students should be subjected to rigorous scrutiny. Educators must provide a compelling explanation for why any student is placed in a program with alternate standards or expectations for student learning, and why this is fair to the student. Standards-based reformers should always be asking themselves whether they except any students at all, and if so, why.

Students can be differently affected by the same standards, making the issues more complicated. The relationships between content standards, performance standards, and student achievement pose hard problems. If performance standards are designed for all students to meet at the same level, then students who have extraordinary academic talents or other educational advantages can meet the standards with little effort, and will not be encouraged to excel at the highest level of their capabilities. At the other extreme, if performance standards are set so high that even the students with the greatest educational advantages must do the best they can to meet them, then dis-

advantaged students will be unable to even approach the standards, and may become discouraged or disenchanted with learning as a result. Setting the performance standards somewhere in the middle may be better for the larger number of students than either of the previous two alternatives, but then the students at both ends of the range may suffer as a result.

A common response here is to make performance standards distinct from, but still related to, content standards, and to design performance standards to accommodate the range of students' different strengths and experiences. While content standards may stipulate what all students should achieve, the related performance standards should be designed to provide a way to challenge students of various abilities and advantages. Acquiring higher levels of performance or sophistication in the skills and depth of knowledge that the content standards require, or learning beyond the scope of the content standards, are both possible.

The National Standards for Civics and Government provide an illustration of a performance standard in civics. The content standard illustrated is as follows: *Students should be able to explain the essential characteristics of limited and unlimited governments.*

The associated performance standard for grade 9-12 identifies three levels of performance, and explains them as follows:

The basic level provides criteria to determine if students can explain essential characteristics of limited and unlimited government and provide at least one historical and contemporary example of each type of government;

The proficient level provides criteria to determine if, in addition to satisfying the basic level, students can explain the differences between such forms of limited governments as constitutional democracies and such forms of unlimited governments as authoritarian and totalitarian systems.

The advanced level provides criteria to determine if, in addition to satisfying criteria for the basic and proficient levels, students can demonstrate a deeper understanding of the characteristics of these types of governments including, for example, the role of civil society in limited and unlimited governments and the role of ideology in authoritarian and totalitarian regimes.[18]

Judging whether content and related performance standards are equitable involves asking how they influence the range and distribution of student achievement. Do students as a whole learn more? Do those with the most, the least, and the usual sorts of advantages perform better, or worse? Does the distance between the students with the

fewest and the greatest educational advantages grow larger, or smaller? Are the expectations for the bulk of students falling, or rising?

Ideally, of course, standards-based reform should benefit every student. Determining whether it actually does means checking the effects on students at various places within the system. How well students are doing can be analyzed both on an absolute basis (that is, in terms of what the students actually learn) or in comparison with the other students in the same education system. Ultimately, standards-based reforms include finding out whether students are learning what the standards call for—focusing the assessment on what they know and can do—not on how many students know more or less than some statistical norm. While comparing student performance to ensure that all students are being treated fairly remains important, assessments' primary purpose is to discover what each student is learning.

The Quality of Educational Opportunity

Equity in standards-based reform also involves the conditions in which students are expected to meet content and performance standards. Opportunity to learn standards are designed to identify the quality of the learning experiences available to students. Plain common sense suggests that students have to have the means to meet specified content and performance standards if anyone seriously expects students to reach them, and that students with fewer or poorer chances to do this are unfairly disadvantaged. The factors that contribute to educational opportunity and success are many and complex, and not limited to the school setting. But schools are the focus of public policy, and society uses schools to provide every child with a genuine opportunity for educational success. The quality of school resources and learning experiences are often used as the basis for determining whether students have what they need to meet content and performance standards.

Content standards themselves are a crucial part of students' educational opportunities. The expectation that a student will meet the standard is a significant factor, motivating the student to take on the learning task. In addition, content standards give shape and direction to the other elements of the students' learning experiences: Do students have materials from which they can find out about what the content standards refer to? How well do teachers teach what the standards call for? Are the school's resources and classroom atmosphere conducive to learning?

The variety of learning opportunities and the complexities of the factors contributing to educational achievement make it exceedingly difficult to agree upon how opportunity to learn standards should be constructed, how to compare different students' opportunities to learn, and how schools should be held accountable. Whether one uses explicitly defined opportunity to learn standards or not, it is unfair and unreasonable to require students to meet content or performance standards without their having the means to do so. A single, inflexible list of conditions will not suffice to enable people to gauge students' educational opportunities, but some way of checking is vital.

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Accountability for All

Accountability also plays a role in the legitimacy of standards-based education reform. Taking content standards seriously means identifying who is responsible for students' achievement or failure to achieve them. In addition to the direct effects of students' acquiring (or not) the expected knowledge and skills, other practical consequences may be attached to students' meeting or not meeting the standards, such as a diploma, or selection for a job, or college. These consequences may signal the seriousness with which the public takes the standards, and may also serve to honor significant accomplishments.

The legitimacy of accountability measures depends on a reasonable assignment of responsibilities. Responsibility for meeting the content standards involves making several such assignments. Obviously, students' own responsibilities are to devote reasonable time and effort to learning what the standards require, and accepting the associated consequences of their success or failure. The nature and seriousness of the consequences attached to success or failure must be made to fit students' age and maturity.

Educators must also act responsibly. They should make clear to students what is expected of them, provide them with the means to reach the standards, inform them of the consequences of their actions, and see to it that the promised consequences they control are indeed attached to students' performance. Reasonable and proportionate consequences should be attached to educators' fulfillment of their responsibilities as well. Making educators responsible in this way can signal and reinforce the importance of the objective.

Again, of course, holding educators accountable depends on their having the knowledge and capacities to carry out their responsibilities, and on society's upholding its responsibilities to the schools. The public should provide the resources, support, and commitment required for standards-based reforms, so that educators and students can be held responsible for doing their part. Making students responsible for specified accomplishments in order to obtain certain jobs or gain entry into post-secondary institutions, for example, implies that institutional administrators must consistently reward those accomplishments in hiring or admissions decisions. Such education reform must be a collective responsibility in which students, educators, and the public all have their respective responsibilities, and all may be held accountable for their respective responsibilities. Participation in the design, adoption, and implementation of standards-based reform creates a responsibility for contributing to its realization.

CRITERIA ABOUT LEGITIMACY:

1. Do the content standards represent a broad consensus achieved through the participation of the public, educators, school officials, and community leaders? Are the standards being implemented through a reasonable and ongoing process of design, development, and refinement?

2. How does the process of developing or implementing the standards reflect voluntary adoption by the community?
3. Does the standards-based reform provide for the equitable treatment of all students? Are the standards being applied to all students? Will the related performance standards and assessments be designed to challenge all students—including the disadvantaged and those who are already doing well—to do their best?
4. How do the standards affect the levels and distribution of student achievement in the system? Does the standards-based reform promise to raise student performance across the board?
5. How does the standards-based reform assign responsibility and provide for accountability measures for students, educators, policymakers, and the public?

III. How Can the Standards Contribute to Practical Reform?

Practical reform in education requires effective, suitable tools. Content standards should be judged as to whether they fit the intended purposes. Even if the standards are meaningful and legitimate, pragmatic aspects of content standards are bound to affect the success of attempted reforms.

Understanding Standards

The main purpose of content standards is to establish a common reference and comprehensive vision for education from kindergarten through twelfth grade. Content standards are supposed to help educators design and reach a common understanding of what to teach. This does not mean, however, that content standards should be judged on the basis of how well they fit existing school practice. On the contrary, part of the primary rationale for establishing content standards is that they provide a basis for evaluating current school practices and reforming what is taught and learned in schools to make education substantially better than it is now.

Good standards must be written in clear, understandable language. To really help people designing or revising the curriculum or curriculum framework, they must be sufficiently detailed to provide substantial guidance about what content and skills should be taught. At the same time, too much detail presents problems: People will be reluctant to use elaborate standards with numerous requirements. Too much specificity lessens educators' flexibility to choose the curricular materials and methods they judge to be the best for their students. This concern for a reasonable degree of specificity applies for curriculum development, textbook development, and teacher selection of materials.

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Understanding Learning

Content standards should be evaluated for how well they reflect a sound understanding of how students learn. Both education research and common sense inform the understanding of how students learn at various stages of their development, and content standards should take such knowledge into account. Standards may also reflect assumptions about the conditions in which students learn well, including effective teaching approaches.

Coordinating Classroom Time, Tests, and Teaching

How much time in school will it take for students to learn what the standards call for? Content standards are supposed to raise expectations about what students should know and be able to do, and this is often interpreted to mean that "students must learn more than what they have been learning," which takes more time. If content standards in each core subject make this demand, then something has got to give. Subjects outside of the core must receive shorter shrift, or the school day or year must be lengthened, or the curriculum must be better integrated so that standards in more than one subject are being met simultaneously. Time wasted, either in or out of school, is the first target. The number of hours in a day devoted to school or homework is ultimately limited by the Earth's rotation, and, of course, some consideration must be given to activities other than education.

Standards' statements concerning time requirements:

Mathematics: At least three years of mathematical study will be required of all secondary students. Four years of mathematical study will be required of all college-intending students. All students will study appropriate mathematics during their senior year.[19]

Science: Time is a major resource in a science program. Science must be allocated sufficient time in the school program every day, every week, and every year. The content standards define scientific literacy; the amount of time required to achieve scientific literacy for all students depends on the particular program. The time devoted to science education must be allocated to meet the needs of an inquiry based science program. No matter what the scheduling model, a school schedule needs to provide sufficient and flexible use of time to accommodate the needs of the students and what is being learned. In addition to time with students and with colleagues, teachers of science also spend considerable time preparing materials, setting up

activities, creating the learning environment, and organizing student experiences. This time must be built into the daily teaching schedule.[20]

History: The schools are in the process of remediating those lacks [of the approaches of the 1970s] and the high costs they exacted in students' intellectual development. In doing so, it is especially important that schools provide adequate time for history in all grades, K-4. ...It is important that the schools devote no less than three years of instruction to United States history and three years of instruction to World History over the eight years of middle and high school education, grades five through twelve.[21]

Arts: The comprehensive nature of these Standards does not require an inordinate focus on the arts at the expense of other subjects. Leading groups of arts educators, as well as the National Endowment for the Arts, recommend that 15 percent of instructional time at the elementary and middle school levels be devoted to serious study of the arts. In high school, it is expected that achieving the basic competencies set forth here will mean arts requirements, not just electives.[21]

Content standards are also often used in tandem with performance standards. Assuming that measures of student learning will be more valid and fair if they are explicitly designed to focus on the same material that students are directed to learn, content standards may be judged for their adaptability in the design and creation of performance standards and assessments. Here, content standards must be amenable to the development of descriptions of the ways in which students can demonstrate the quality of their learning. Because performance standards identify the level or quality of accomplishment expected, and because usually students can demonstrate the same achievement in a variety of ways, performance standards and assessments may include additional detail or multiple formulations.

Likewise, content standards should be suitable for professional development. As with the link to performance standards and assessments, it makes sense for teachers cultivating their skills to devote their attention to the actual subject matter they will be using in their classrooms. Teaching standards may be developed that explicitly address the qualities of teaching associated with content standards. Properly done, teaching standards may lend themselves to activities in which teachers further develop their familiarity with the curriculum, or develop and refine effective instructional strategies.

Content standards can also contribute to teacher preparation at schools of education. Teaching standards linked to content standards may inform teacher preparation regarding the material graduating students should expect to teach when they find a teaching job, and what student skills their instruction should be designed to promote. Faculty may therefore evaluate content standards for their potential relationship to good quality teaching standards.

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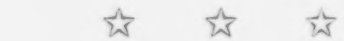
CRITERIA ABOUT PRACTICALITY:

1. How well do the content standards contribute to a coordinated system which also includes curricula, performance standards, assessments, and teaching standards?
2. How well do the content standards reflect both relevant research and common sense regarding student development and learning?
3. How well do the content standards represent a reasonable evaluation of the time commitment required for students to attain them?
4. How well do the standards promote public understanding and support?
5. How well do the standards enable policymakers to make decisions and develop initiatives to improve the education system as a whole?



Used in coordination, content, performance, and opportunity to learn standards provide a lever for raising the system's effectiveness. For example, content standards must orient both classroom experiences and student performance measures. If content standards, performance standards, and assessments reveal a gap between what students are expected to know and what they are actually learning, this can draw the attention of educators and the public to what resources or other strategies are needed to improve the system. If the tests ask students to know the European nations of today, and students have been studying textbooks and maps with East Germany, West Germany, and the Soviet Union, then who is really failing the test? What is the point of a school district's final modern history exam including questions about World War II if half of the classes never got to the end of the nineteenth century?

Content standards should guide—not constrict—teaching and learning. Shared expectations for learning can make students' education more coherent, especially for students moving from one school to another or progressing from one level to the next. At the same time, the use of standards must be flexible enough to allow teacher discretion in curricular and teaching decisions to suit particular teaching conditions and student needs.

The design of learning benchmarks for content standards should take these considerations into account. Learning benchmarks are helpful as a way to mark student progress toward meeting content standards at various points in the student's education. They provide teachers and parents with reference points for evaluating how well students are doing, and what remains to be done. Learning benchmarks should take into account how human development shapes the learning which students are capable of at various ages, and should not be spaced so close together that they do not allow for any variation in the sequence of the curricula at the classroom, school, or district levels.

Content standards must be shared, understood, and supported by everyone concerned. The general public, parents, and students can benefit by seeing the overall picture of what education should include, and by understanding what students should have

mastered at various points along the way. The standards should provide enough guidance so that a student, parent, or local citizen can see what questions to ask their school officials to find out what kind of education the school is offering.

If content standards are used to make the education system both challenging and realistic, then it is reasonable for the public and policymakers to hold students, professional educators, and themselves accountable for their actions. Teachers can be required to show that they can teach effectively, students can bear the consequences of success or failure, and the public and policymakers can be judged for doing or not doing their part. Standards-based reforms can guide decisions about how well the system is working, and about what resources, policies, and other changes are needed.

Endnotes

1. "The 27th Annual Phi Delta Kappa/Gallup Poll of the Public's Attitudes Toward the Public Schools," *Phi Delta Kappan* (September 1995). *First Things First: What Americans Should Expect from the Public Schools* (New York: Public Agenda, 1994), found similar broad support for high educational standards.

2. The Council for Basic Education's Standards for Excellence in Education (SEE) Project includes content standards in mathematics, science, geography, civics, history, English, foreign language, and the arts.

3. National Commission on Excellence in Education, *A Nation at Risk* (Washington, DC: Government Printing Office, 1983).

4. *National Education Goals Report: Building a Nation of Learners* (Washington, DC: Government Printing Office, 1991).

5. The National Council on Education Standards and Testing, *Raising Standards for American Education* (Washington, DC: Government Printing Office, 1992); Goals 2000: Educate America Act, Public Law 103-227 (1994).

6. Commission on Standards for School Mathematics, *Curriculum and Evaluation Standards for School Mathematics* (Reston, VA: National Council of Teachers of Mathematics, 1989); Project 2061, American Association for the Advancement of Science, *Benchmarks for Scientific Literacy* (New York: Oxford University Press, 1993), National Research Council, *National Science Education Standards* (Washington, DC: National Academy Press, 1996); Center for Civic Education, *National Standards for Civics and Government* (Calabasas, CA: Center for Civic Education, 1994); National Center for History in the Schools, *National Standards for History* (Los Angeles, CA: National Center for History in the Schools, 1996); The Geography Standards Education Project, *Geography for Life: National Geography Standards* (Washington, DC: National Geographic Research and Exploration, 1996); Consortium of National Arts Education Associations, *National Standards for Arts Education* (Reston, VA: Music Educators National Conference, 1994); National Standards in Foreign Language Education Project, *Standards for Foreign Language Learning: Preparing for the 21st Century* (Lawrence, KS: Allen Press, 1996).

7. In those projects for which the federal government provided support, funding was obtained through grants. Grants provide support to individuals or institutions that design projects and submit proposals requesting support for those projects.

8. U.S. Department of Education, Office of Educational Research and Improvement, *What Do Student Grades Mean? Differences Across Schools* (Washington, DC: Government Printing Office, 1994).

9. U.S. Department of Education, Office of Educational Research and Improvement, *Hard Work and High Expectations: Motivating Students to Learn* (Washington, DC: Government Printing Office, 1992).

10. Fred M. Newmann and Gary G. Wehlage, *Successful School Restructuring: A Report to the Public and Educators* (Madison, WI: Center on Organization and Restructuring of Schools, 1995).

11. Various groups have listed standards criteria, and developers of the various content standards have also put forward ideas about what standards should contain. See, for example, Goals 3 and 4 Technical Planning Group on the Review of Education Standards, *Promises to Keep: Creating High Standards for American Students* (Washington, DC: National Education Goals Panel, 1993); Council of Chief State School Officers, *Recommended Criteria and Processes for Responding to State and Voluntary National Standards for Education* (Washington, DC: National Education Goals Panel, 1995); Higher Education Advisory Group, *Report of the Higher Education Advisory Group of the National Education Goals Panel* (Washington, DC: National Education Goals Panel, 1995); The Business Task Force on Student Standards, *The Challenge of Change: Standards to Make Education Work for All Our Children* (Washington, DC: National Alliance of Business, 1995); The Pew Forum on Education Reform, *Developing Standards for the Standards: How Can the Standard Certification Process Best Serve the Goal of Improving Teaching and Learning?* (Stanford, CA: Pew Charitable Trusts, 1994); AFT Educational Issues Department, *Setting Strong Standards: AFT's Criteria for Judging the Quality and Usefulness of Student Achievement Standards* (Washington, DC: American Federation of Teachers, 1995); and National Academy of Education Panel on Standards-Based Education Reform, *Improving Education Through Standards-Based Reform* (Stanford, CA: National Academy of Education, 1995).

12. "The 25th and 26th Annual Phi Delta Kappa/Gallup Polls of the Public's Attitudes Toward the Public Schools," *Phi Delta Kappan* (October 1993 and September 1994). See also *First Things First.*

13 *Curriculum and Evaluation Standards for School Mathematics*, p. 23.

14. *Benchmarks for Scientific Literacy*, p. 287.

15. *National Standards for Civics and Government*, p. 133.

16. *Benchmarks for Scientific Literacy*, p. 317.

17. In 1992-1993, .24% of the children enrolled in public schools in the United States had multiple disabilities. U. S. Department of Education, *Digest of Education Statistics: 1995* (Washington, DC: National Center for Education Statistics, 1995).

18. *National Standards for Civics and Government*, pp. 147-150.

19. *Curriculum and Evaluation Standards for School Mathematics*, pp. 124-125.

20. *National Science Education Standards*, p. 219.

21. *National Standards for History*, pp. 12, 57.

22. *National Standards for Arts Education*, p. 16.

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